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A4N N2B

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GB 2306316 A GB 2270836 A GB 2244428 A

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(71) Applicant(s)
Terence Luther Cundick
1 Mill Cottage, Bransford, WORCESTER, WR6 5JL, United Kingdom

(72) Inventor(s)
Terence Luther Cundick

(74) Agent and/or Address for Service
Derek Jackson Associates
The Haven, Plough Road, Tibberton, DROITWICH, Worcs, WR9 7NQ, United Kingdom

# (54) Shower tray arrangement

(57) A shower tray arrangement for disabled persons comprises a tray (1) and a perforated surface (17). The tray has a base (3), an upstanding side wall (5) and an outlet (13), while the perforated surface (17) is supported above the base of the tray substantially coplanar with an upper edge of the upstanding side wall of the tray at least over part of the length thereof. The perforated surface (17) may be supported above the base of the tray (1) by means of a plurality of discrete protrusions extending downwardly from the underside of the perforated surface.

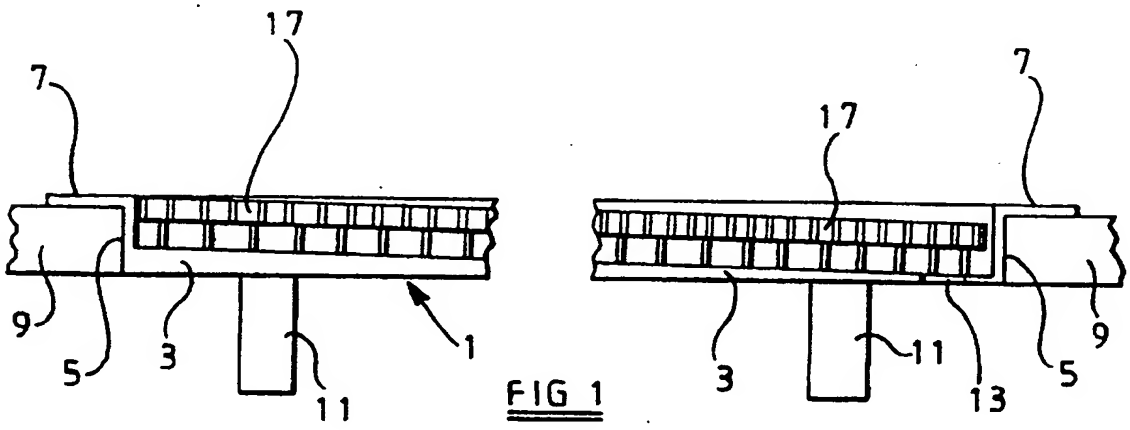


FIG 1

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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1995

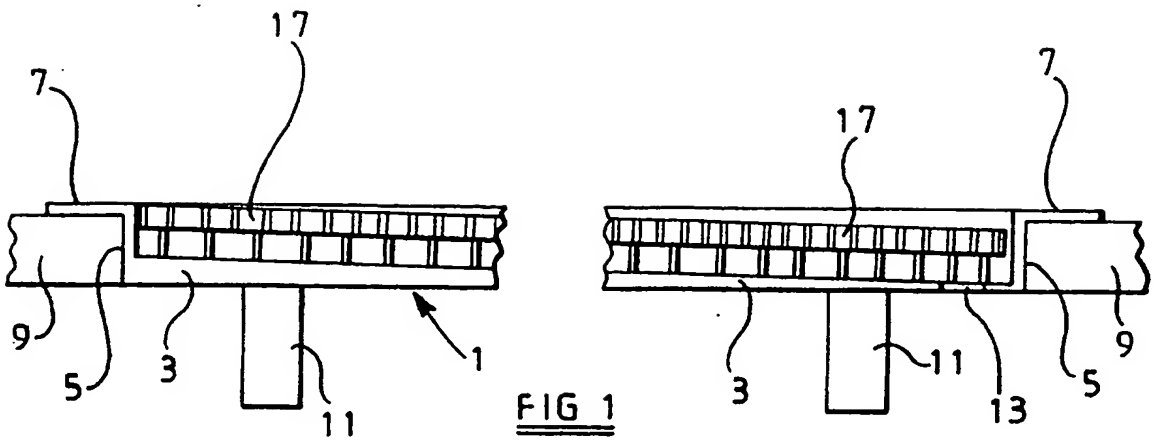


FIG 1

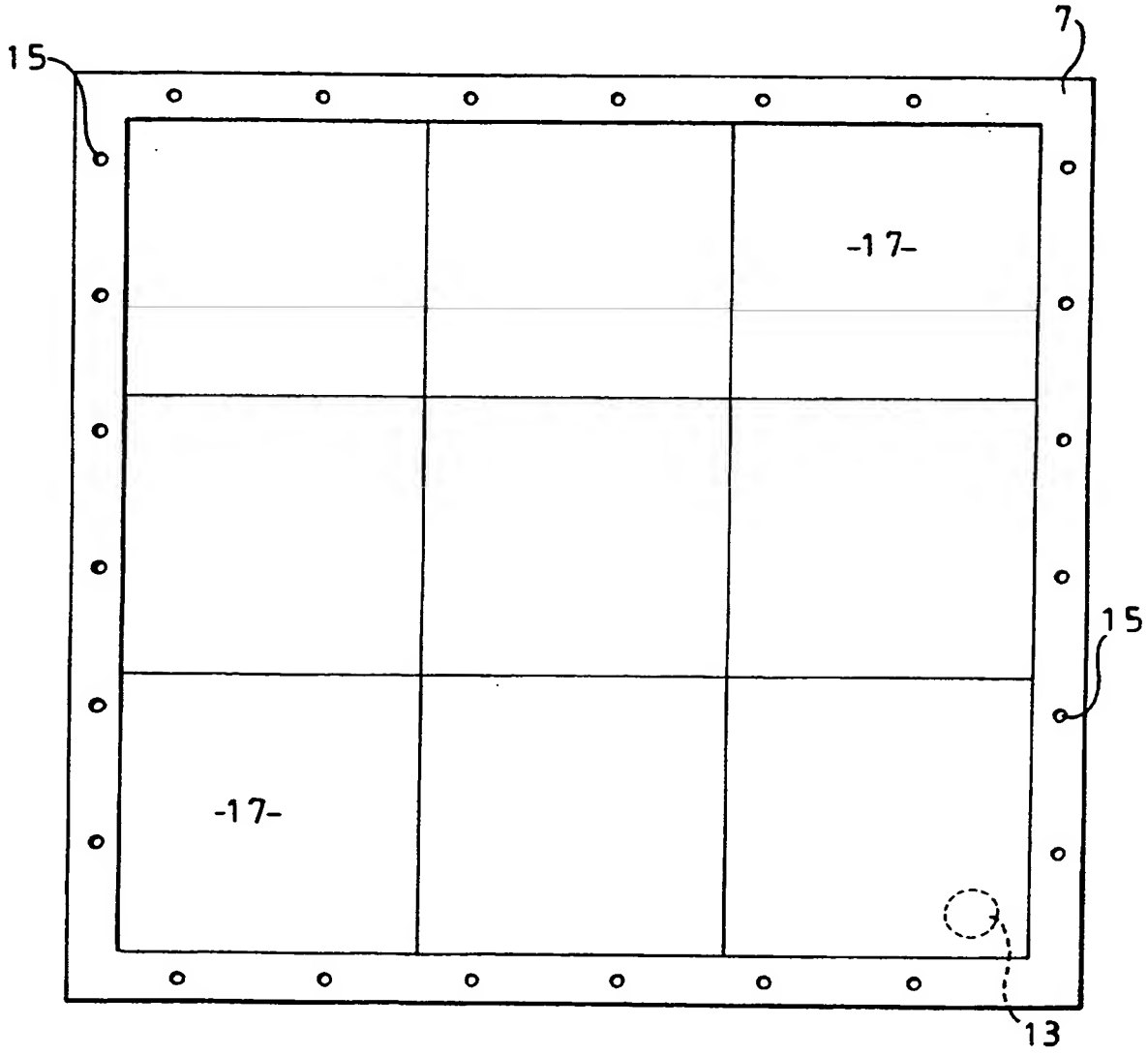


FIG 2

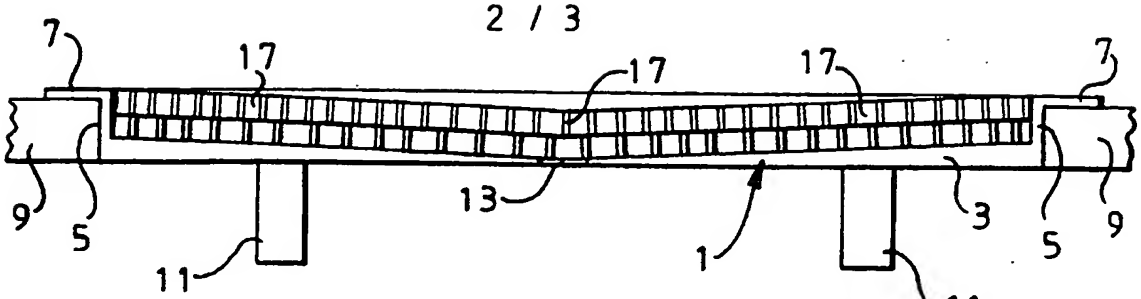


FIG 3

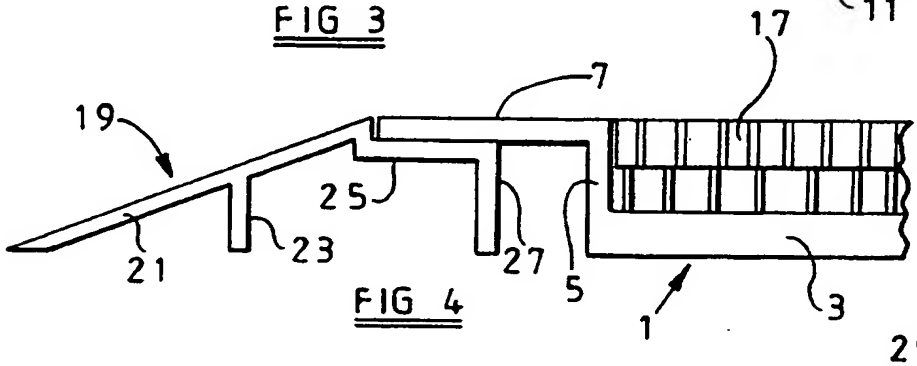


FIG 4

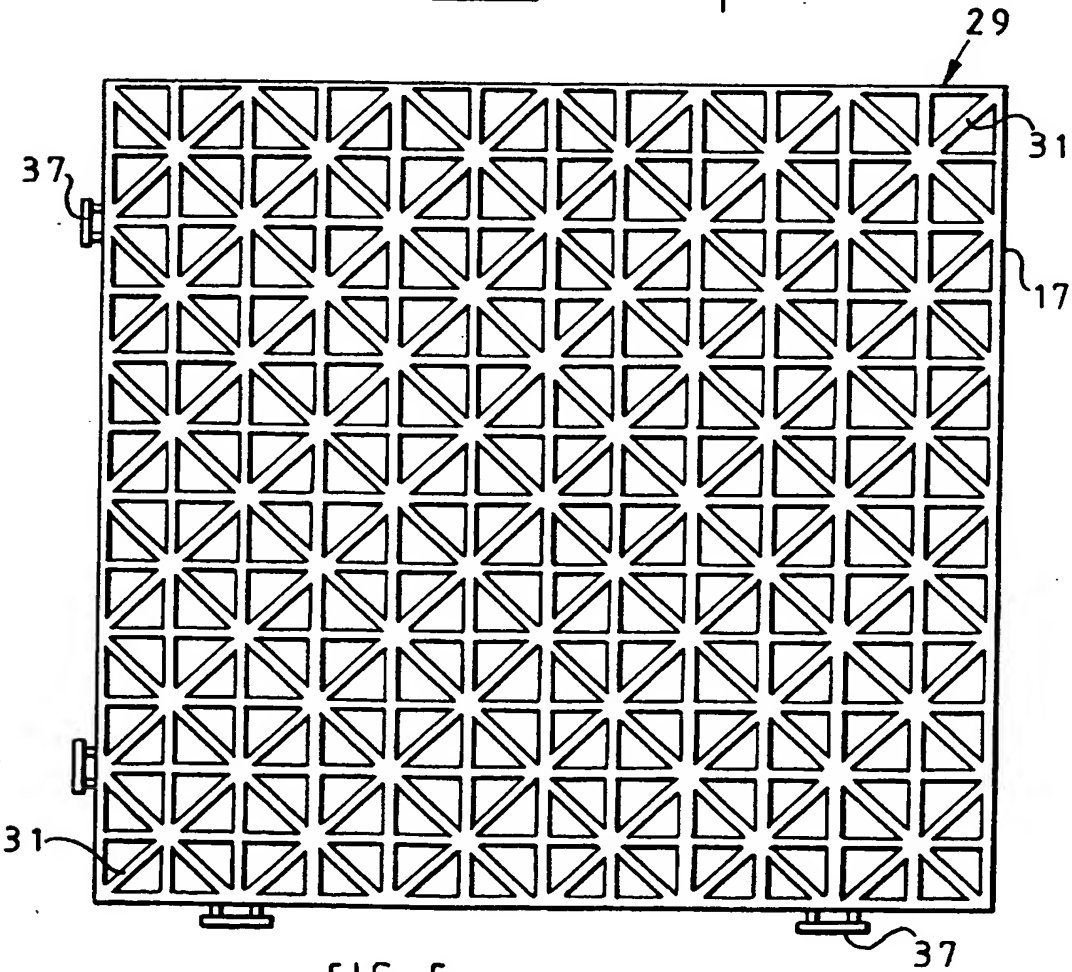


FIG 5

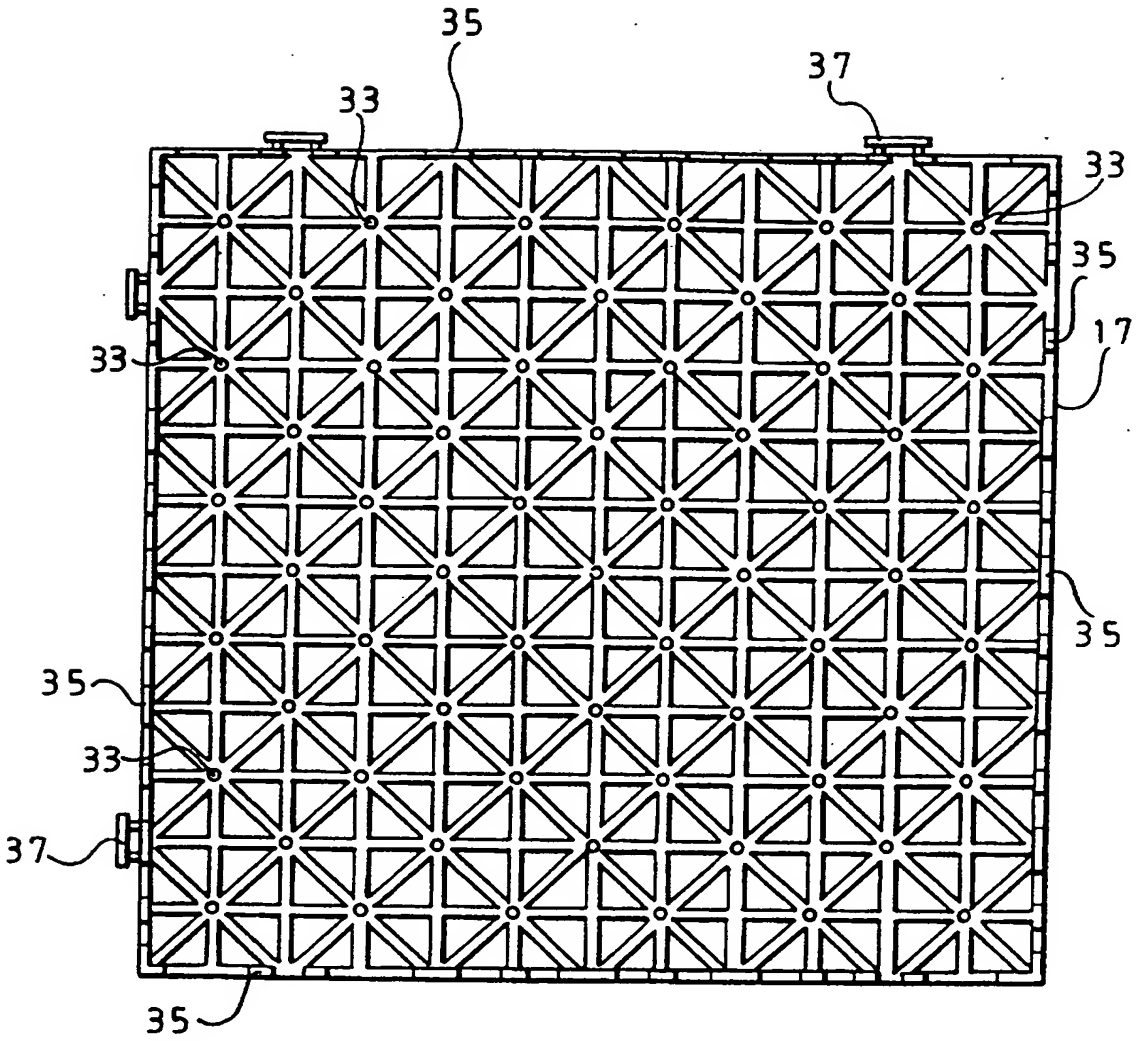


FIG 6

# SHOWER TRAY ARRANGEMENT FOR DISABLED PERSONS

This invention relates to a shower tray arrangement for disabled persons.

It is often difficult for disabled persons who are confined to a wheelchair or the like to use a shower because the shower tray has an upstanding rim which makes it difficult or impossible for a wheelchair to be manoeuvred into and out of the shower.

It is therefore an object of the present invention to provide a shower tray arrangement which can more readily be used by disabled persons, such as those confined to a wheelchair.

According to the present invention there is provided a shower tray arrangement for disabled persons and comprising:

a tray having a base, an upstanding side wall and an outlet; and

a perforated surface supported above the base of the tray substantially coplanar with an upper edge of the upstanding side wall of the tray at least over part of the length thereof.

The tray may incorporate a rim provided in the region of the upper edge of the wall and extending outwardly of the tray.

The base of the tray may be of variable thickness, the thickness decreasing progressively towards the outlet.

The outlet may be positioned in the region of a corner of the tray or generally centrally thereof. Alternatively, the outlet may be formed in the side wall of the tray, for example as a slot.

A ramp may be positioned along one or more sides of the tray.

The perforated surface may be supported above the base of the tray by means of a plurality of protrusions extending downwardly from the underside of the perforated surface.

The perforated surface may be formed by a plurality of rib members. The rib members may be curvilinear, for example curved, orthogonal and/or diagonal relative to the tray.

The perforated surface may be comprised of a plurality of tiles. The tiles may be formed with the protrusions remote from the periphery thereof, in which case the protrusions may be generally cylindrical, and/or the tiles may be provided with protrusions around the periphery thereof, in

which case the protrusions may be generally rectangular. The rectangular protrusions may be spaced in a manner which permits engagement with one or more interlocking members provided on an adjacent tile.

For a better understanding of the present invention and to show more clearly how it may be carried into effect reference will now be made, by way of example, to the accompanying drawings in which:

Figure 1 is a diagrammatic cross sectional view of part of one embodiment of a shower tray arrangement according to the present invention;

Figure 2 is a diagrammatic plan view of the shower tray arrangement shown in Figure 1 to a different scale;

Figure 3 is a diagrammatic cross sectional view of a modification of the shower tray arrangement shown in Figure 1;

Figure 4 is a diagrammatic cross sectional view, to a different scale, of part of the shower tray arrangement of Figure 1 adapted for mounting on a surface;

Figure 5 is a top plan view of a tile for use in the shower tray arrangements of Figures 1 to 4; and

Figure 6 is a bottom plan view of the tile shown in Figure 5.

The shower tray arrangement shown in Figures 1 and 2 comprises a shallow tray 1 incorporating a base 3, a peripheral upstanding side wall 5 and a rim 7 extending outwardly from the region of the upper edge of the side wall 5. The tray 1 may be made of any suitable material, such as cast aluminium or aluminium alloy, which may be provided with an enamel or like coating.

The tray 1 is substantially square in the illustrated embodiment and may have internal dimensions of about 900 mm by 900 mm. However, it should be noted that the tray may be made with a range of dimensions and may be either square or rectangular, such as 1200 mm by 1200 mm, 1500 mm by 1500 mm, 900 mm by 1200 mm, 900 mm by 1500 mm, or 1200 mm by 1500 mm. The side wall 5 may have a height of about 20 mm and a thickness of about 5 mm, the height being adapted to permit the tray to be recessed into floorboards 9 so as to be supported by floor joists 11. A tray of these dimensions can hold at least about 10 litres of water which is adequate in practice even if the water should flow away relatively slowly. The rim may have a width of about 35 mm and a thickness of about 5 mm. A number of apertures 15 may be provided through the rim 7 to assist in securing the tray to the surrounding floorboards.

The base 3 of the tray is of variable thickness, the thickness decreasing progressively towards an outlet 13 so as to direct water received in the tray towards the outlet which is positioned adjacent to a corner of the tray. For example, the tray may vary in thickness between 10 mm and 5 mm. This permits the lower surface of the tray to be substantially planar in order to facilitate installation.

In a further embodiment (not illustrated) the outlet may be formed as a slot in the side wall 5 rather than in the base of the tray 1. This can assist where space beneath the tray is limited.

Positioned within the tray 1 and supported by the base 3 is a plurality of tiles 17 which may be, for example, of plastics material. The upper surface of the tiles 17 is substantially level with the rim of the tray 1 at least along part of the length of the side wall 5 so as to facilitate entry and exit by a person in a wheelchair.

In the shower tray arrangement shown in Figure 3, the outlet 13 is positioned substantially centrally of the tray and the thickness of the base decreases progressively from the edges thereof towards the outlet.

The shower tray arrangement of Figure 4 illustrates how the tray 1 can be positioned on a solid surface, for example of concrete, instead of being recessed. In the embodiment of

Figure 4, a ramp 19, for example of suitable non-slip material, is positioned along one or more sides of the tray to enable a person in a wheelchair to mount the ramp and enter the shower tray arrangement. The ramp 19 comprises an inclined portion 21, which is provided with an upright supporting leg 23 intermediate the ends thereof, and a lateral portion 25 recessed below the uppermost point of the inclined portion so as to fit beneath the rim 7 of the tray, the lateral portion being provided with an upstanding supporting leg 27 at the free end thereof. Where the ramp 19 is to be provided along adjacent sides of the tray 1, the adjoining ends of the ramp may be mitred.

The tiles 17 are shown in more detail in Figures 5 and 6, although tiles may be used having different configurations to that illustrated. The tiles 17 comprise a perforated upper surface 29, in the present case the perforated upper surface being formed by a plurality of intersecting orthogonal and diagonal rib members 31, and a number of protrusions 33 and 35 extending from beneath the upper surface to a substantially common plane for supporting the perforated surface 29 above the base 3 of the tray 1 so as to enable water to flow more readily towards the outlet 13 of the tray. Protrusions 33 remote from the edges of the tile may be cylindrical as illustrated, while protrusions 35 around the periphery of the tile may be substantially rectangular as illustrated. Protrusions 35 are spaced in a manner which permits engagement with interlocking members

37 which are provided along one or two sides of the tiles in order to permit adjoining tiles to be interlocked. In this way the individual tiles can be locked together to form a safe and continuous perforated surface supported above the base of the tray 1 and which permits ready entry and exit for a person in a wheelchair. Additionally, the tiles 17 can readily be removed from the tray 1 to facilitate cleaning of the tiles and the tray.

The individual tiles may be substantially square, for example about 300 mm by 300 mm, the tiles having an overall thickness of about 15 mm, of which about 7.5 mm is occupied by the perforated surface 29 and about 7.5 mm is occupied by the protrusions 33, 35.

CLAIMS

1. A shower tray arrangement for disabled persons and comprising:

a tray having a base, an upstanding side wall and an outlet; and

a perforated surface supported above the base of the tray substantially coplanar with an upper edge of the upstanding side wall of the tray at least over part of the length thereof.

2. A shower tray arrangement as claimed in claim 1, wherein the tray incorporates a rim provided in the region of the upper edge of the wall and extending outwardly of the tray.

3. A shower tray arrangement as claimed in claim 1 or 2, wherein the base of the tray is of variable thickness, the thickness decreasing progressively towards the outlet.

4. A shower tray arrangement as claimed in any preceding claim, wherein the outlet is positioned in the region of a corner of the tray

5. A shower tray arrangement as claimed in any one of claims 1 to 3, wherein the outlet is positioned generally centrally of the tray.

6. A shower tray arrangement as claimed in any one of claims 1 to 3, wherein the outlet is formed in the side wall of the tray.

7. A shower tray arrangement as claimed in claim 6, wherein the outlet is formed as a slot.

8. A shower tray arrangement as claimed in any preceding claim, wherein a ramp is positioned along one or more sides of the tray.

9. A shower tray arrangement as claimed in any preceding claim, wherein the perforated surface is supported above the base of the tray by means of a plurality of protrusions extending downwardly from the underside of the perforated surface.

10. A shower tray arrangement as claimed in claim 9, wherein a plurality of discrete protrusions are provided.

11. A shower tray arrangement as claimed in claim 9 or 10, wherein the protrusions are spaced across the underside of the perforated surface.

12. A shower tray arrangement as claimed in any one of claims 9 to 11, wherein the protrusions are substantially columnar.

13. A shower tray arrangement as claimed in any preceding claim, wherein the perforated surface may be formed by a plurality of rib members.

14. A shower tray arrangement as claimed in claim 13, wherein the rib members are arranged in groups positioned at angles relative to each other.

15. A shower tray arrangement as claimed in claim 13 or 14, wherein the rib members are curvilinear relative to the tray.

16. A shower tray arrangement as claimed in claim 15, wherein the rib members are curved, orthogonal and/or diagonal relative to the tray.

17. A shower tray arrangement as claimed in any preceding claim, wherein the perforated surface comprises a plurality of tiles.

18. A shower tray arrangement as claimed in claim 17, wherein the tiles are formed with the protrusions remote from the periphery thereof

19. A shower tray arrangement as claimed in claim 18, wherein the protrusions are generally cylindrical.

20. A shower tray arrangement as claimed in any one of claims 17 to 19, wherein the tiles are provided with protrusions around the periphery thereof.

21. A shower tray arrangement as claimed in claim 20, wherein the protrusions are generally rectangular.

22. A shower tray arrangement as claimed in claim 21, wherein the rectangular protrusions are spaced in a manner which permits engagement with one or more interlocking members provided on an adjacent tile.

23. A shower tray arrangement substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.

The Patent Office

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**Application No:** GB 9707713.5 **Examiner:** D. Haworth
**Claims searched:** 1-23 **Date of search:** 13 January 1998

## Patents Act 1977
## Search Report under Section 17

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.P): A4N (N2B)

Int Cl (Ed.6): A47K 3/22

Other:

**Documents considered to be relevant:**

| Category | Identity of document and relevant passage | | Relevant to claims |
|---|---|---|---|
| X | GB 2244428 A | (Murray) | 1-3 & 5 at least |
| Y | GB 2270836 A | (Gontar) | 8 |
| A | GB 2306316 A | (Beldore) | |

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|---|---|---|---|
| X | Document indicating lack of novelty or inventive step | A | Document indicating technological background and/or state of the art. |
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